Complete Summary

GUIDELINE TITLE

Secondary prevention of coronary heart disease following myocardial infarction. A national clinical guideline.

BIBLIOGRAPHIC SOURCE(S)

Scottish Intercollegiate Guidelines Network. Secondary prevention of coronary heart disease following myocardial infarction. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2000 Jan. 26 p. (SIGN publication; no. 41). [97 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Coronary heart disease
- Myocardial infarction

GUIDELINE CATEGORY

Evaluation
Prevention
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Internal Medicine
Nursing

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To present evidence-based recommendations for the secondary prevention of coronary heart disease (CHD) in patients following myocardial infarction (MI).
- To prevent death, major coronary events, congestive cardiac failure, stroke, and the need for coronary revascularization procedures in post MI patients both immediately following the event or as part of a â ˜catch up´ program.

TARGET POPULATION

Adult patients surviving a primary coronary event.

INTERVENTIONS AND PRACTICES CONSIDERED

1. Cardiac assessment measures immediately following myocardial infarction (MI), including:
    - Exercise tolerance test
    - Echocardiography
2. Lifestyle modifications, such as:
    - Smoking cessation
    - Diet
    - Alcohol
    - Exercise
3. Management of other risk factors, including:
    - Diabetes mellitus
    - Hypertension
    - Hyperlipidaemia
    - Obesity
4. Pharmacological interventions, including:
    - Aspirin
    - Beta-blockers
    - Angiotensin converting enzyme (ACE) inhibitors
    - Nitrates
    - Calcium channel blockers
    - Warfarin
    - Antiarrythmic drugs
    - Hormone replacement therapy (HRT)

Note: Cardiac rehabilitation is considered. Scottish Intercollegiate Guidelines Network (SIGN) will be publishing a separate guideline on cardiac rehabilitation.

MAJOR OUTCOMES CONSIDERED

- Secondary coronary heart disease (CHD) mortality rates.
- Incidence of secondary coronary heart events.

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence base for this guideline was synthesised in accordance with the Scottish Intercollegiate Guidelines Network (SIGN) methodology. A systematic review of the literature was carried out using an explicit search strategy which included the Cochrane database, the Database of Abstracts of Reviews of Effectiveness ([DARE]; NHS Centre for Reviews and Dissemination, The University of York), Medline, Embase, Healthstar, the DHSS-Data (United Kingdom Department of Health) database, SciSearch, the Conference Papers Index, Extramed, Pascal, and IAPV-Incidence and Prevalence Database (Timely Data Resources, Inc.) using the following key words: myocardial ischaemia or myocardial infraction (MI was exploded to take in all subheadings in the MeSH thesaurus) or non-Q wave infarction. Papers with these terms were then linked with secondary prevention, lipids, treatment with angiotensin converting enzyme (ACE) inhibitors, aspirin, beta blockers, calcium channel blockers, anti-arrhythmic drugs, hormone replacement therapy (HRT), hypertension, smoking, diet, cardiac rehabilitation.

Papers were only included if they adhered to recognizable methodological principles, including adequate sample size, a clearly identified hypothesis and measure of outcome, and accurate reporting of results.

The initial literature search covered the period 1987 and 1997, but the evidence base was updated during the course of development of the guideline to take account of newly published studies.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Statements of Evidence

Ia
Evidence obtained from meta-analysis of randomized controlled trials.

Ib
Evidence obtained from at least one randomized controlled trial.

IIa
Evidence obtained from at least one well-designed controlled study without randomization.

IIb
Evidence obtained from at least one other type of well-designed quasi-experimental study.

III
Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV
Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Scottish Intercollegiate Guidelines Network (SIGN) carries out comprehensive systematic reviews of the literature using customized search strategies applied to a number of electronic databases and the Internet. This is often an iterative process whereby the guideline development group will carry out a search for existing guidelines and systematic reviews in the first instance and, after the results of this search have been evaluated, the questions driving the search may be redefined and focused before proceeding to identify lower levels of evidence.

Once papers have been selected as potential sources of evidence, the methodology used in each study is assessed to ensure its validity. SIGN has developed checklists to aid guideline developers to critically evaluate the methodology of different types of study design. The result of this assessment will affect the level of evidence allocated to the paper, which in turn will influence the grade of recommendation it supports.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The process for synthesizing the evidence base to form graded guideline recommendations is illustrated in the companion document titled "SIGN 50: A Guideline Developer's Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50], available from the SIGN website.

Evidence tables should be compiled, summarizing all the validated studies identified from the systematic literature review relating to each key question. These evidence tables form an important part of the guideline development record and ensure that the basis of the guideline development group's recommendations is transparent.

In order to address how the guideline developer was able to arrive at their recommendations given the evidence they had to base them on, SIGN has introduced the concept of considered judgement.

Under the heading of considered judgement, guideline development groups are expected to summarise their view of the total body of evidence covered by each evidence table. This summary view is expected to cover the following aspects:

- Quantity, quality, and consistency of evidence
- Generalisability of study findings
- Applicability to the target population of the guideline
- Clinical impact (i.e., the extent of the impact on the target patient population, and the resources need to treat them.)

Guideline development groups are provided with a pro forma in which to record the main points from their considered judgement. Once they have considered these issues, the group are asked to summarise their view of the evidence and assign a level of evidence to it, before going on to derive a graded recommendation.

The assignment of a level of evidence should involve all those on a particular guideline development group or subgroup involved with reviewing the evidence in relation to each specific question. The allocation of the associated grade of recommendation should involve participation of all members of the guideline development group. Where the guideline development group is unable to agree a unanimous recommendation, the difference of opinion should be formally recorded and the reason for dissent noted.

The recommendation grading system is intended to place greater weight on the quality of the evidence supporting each recommendation, and to emphasise that the body of evidence should be considered as a whole, and not rely on a single study to support each recommendation. It is also intended to allow more weight to be given to recommendations supported by good quality observational studies where randomised controlled trials (RCTs) are not available for practical or ethical reasons. Through the considered judgement process guideline developers are also able to downgrade a recommendation where they think the evidence is not generalisable, not directly applicable to the target population, or for other reasons is perceived as being weaker than a simple evaluation of the methodology would suggest.

On occasion, there is an important practical point that the guideline developer may wish to emphasise but for which there is not, nor is their likely to be, any research evidence. This will typically be where some aspect of treatment is regarded as such sound clinical practice that nobody is likely to question it. These are marked in the guideline as "good practice points." It must be emphasized that these are not an alternative to evidence-based recommendations, and should only be used where there is no alternative means of highlighting the issue.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendations

Grade A: Requires at least one randomized controlled trial (RCT) as part of a body of literature of overall good quality and consistency addressing the specific recommendation (Evidence levels Ia, Ib).

Grade B: Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation (Evidence levels IIa, IIb, III).

Grade C: Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality (Evidence level IV).

Good Practice Points: Recommended best practice based on the clinical experience of the guideline development group.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

1. National open meeting discusses the draft recommendations of each guideline.
2. Independent expert referees review the guideline.
3. The Scottish Intercollegiate Guidelines Network (SIGN) Editorial Board reviews the guideline and summary of peer reviewers' comments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the Scottish Intercollegiate Guidelines Network (SIGN) and National Guideline Clearinghouse (NGC): In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the full-text guideline document.

Cardiac Assessment Following Myocardial Infarction (MI)

B* – All patients who have sustained an MI should have an exercise tolerance test unless they are judged unable to undertake the test.

B – Echocardiography is recommended in all patients who have sustained an acute MI, whether or not there are clinical signs of left ventricular dysfunction..

C – Echocardiography should be performed and reported by experienced operators, preferably certified by the British Society of Echocardiography.

Lifestyle Modification Following MI

B – Following MI all patients should be actively discouraged from smoking.

B – Repeated brief and supportive advice on smoking cessation should be given to patients during the cardiac rehabilitation program. This should be reinforced by the primary care team.

B – Nicotine replacement therapy should be recommended routinely to heavier smokers as a smoking cessation strategy.

A – Consumption of fresh fruit and vegetables should be increased to the recommended level of five portions per day.

B – Alcohol intake up to three units per day (21 units weekly) for men and up to two units per day (14 units weekly) for women is acceptable for general health and may be protective against coronary heart disease (CHD).

B – Post MI patients should be encouraged to exercise regularly.

Management of Other Risk Factors Following MI

B – A serum cholesterol measurement should be made, preferably within 24 hours of acute MI, and repeated (ideally fasting) after 6-12 weeks.

A – If total cholesterol is $\geq$ 6.0 mmol/l, drug therapy to reduce cholesterol should be initiated, titrated as necessary to reduce total cholesterol to < 5.0 mmol/l.

A – If total cholesterol is between 5.0 and 6.0 mmol/l appropriate dietary measures should be recommended and a cholesterol measurement repeated after 6-12 weeks. If required, lipid lowering drug therapy should then be initiated.

A – Pravastatin and simvastatin are the drugs of choice for lipid lowering for secondary prevention of CHD following MI.

C – Drug choice should be made on the balance of trial evidence, safety and cost-effective considerations, also by the degree of cholesterol lowering required to reach target levels in patients with severe hypercholesterolemia.

C – If serum cholesterol $\geq$ 8.0 mmol/l persists on therapy, and is not due to a correctable secondary cause such as hypothyroidism or uncontrolled diabetes, the patient should be referred for specialist advice.

C – First degree relatives of patients with serum cholesterol $\geq$8.0 mmol/l should be screened for lipid levels.

C – If total cholesterol is < 5.0 mmol/l, dietary advice should be reinforced.

C – Patients with diabetes should be considered for intensive insulin treatment following acute MI.

C – Hypertension in patients following myocardial infarction should be treated.

B – Obese patients with coronary heart diseases should be encouraged to lose weight.

Pharmacological Intervention Following MI

A – Aspirin should be given routinely and continued for life in patients with coronary heart disease.

A – Clopidogrel (75 mg/day) is an effective alternative in patients with contraindications to aspirin, or who are intolerant of aspirin.

A – Beta-blocker therapy should be considered for patients following myocardial infarction unless there are contraindications.

A – Long term angiotensin converting enzyme (ACE) inhibitor therapy should be considered for patients following MI with or without left ventricular dysfunction, unless there are contraindications.

A – In post MI patients with left ventricular dysfunction, ACE inhibitor therapy should be considered within 48 hours of the onset of symptoms.

A – For long term prophylaxis following MI, antiplatelet agents (usually aspirin) are preferred to warfarin because of their lower complexity and bleeding risk.

A – The prophylactic administration of class I antiarrhythmic drugs following MI is not recommended.

A – Routine antiarrhythmic therapy is not recommended in patients following myocardial infarction other than the use of beta-blocker therapy, where tolerated.

C – It is recommended that hormone replacement therapy (HRT) prescribed for non-cardiovascular reasons should be continued and should be reviewed on an annual basis.

*Definitions:

Grades of Recommendations:

A. Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (Evidence levels Ia, Ib)
B. Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation. (Evidence levels IIa, IIb, III)
C. Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV)

Statements of Evidence

Ia
Evidence obtained from meta-analysis of randomized controlled trials.

Ib
Evidence obtained from at least one randomized controlled trial.

IIa
Evidence obtained from at least one well-designed controlled study without randomization.

IIb
Evidence obtained from at least one other type of well-designed quasi-experimental study.

III
Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV
Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The specific type of supporting evidence is explicitly identified in each section of the guideline.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Overall

- Reduce total mortality and improve survival in patients following a myocardial infarction (MI).
- Reduce the risk of further cardiac events in patients following an MI.
- Improve the health status of patients following an MI.

Intervention-specific

Lifestyle modification

- Smoking cessation. Observational data have demonstrated that people with established coronary heart disease (CHD) who have stopped smoking have half the mortality rate of those who continue to smoke. A meta-analysis of controlled trials showed that a combination of individual and group smoking cessation advice, and assistance reinforced on multiple occasions gave the highest success rates. Meta-analyses of randomised controlled trials have shown that nicotine replacement therapy is an effective component of smoking cessation strategies, particularly in heavy smokers, i.e., those smoking more than ten cigarettes daily.
- Diet. In some studies, modification of dietary fatty acid composition has been shown to reduce total mortality and improve survival in post MI patients. A diet high in fruit, vegetables, nuts and grains has been shown to lead to a significant reduction in cardiac events in post myocardial infarction patients.
- Alcohol. An intake of three units of alcohol per day is associated with a lower risk of coronary heart disease in post-myocardial infarction patients as compared with both abstainers and those who consume higher quantities of alcohol, but evidence in the general population shows that as consumption increases there is a higher risk of hypertension, sudden death and other non-cardiac diseases.
- Exercise. There is some evidence to suggest that although there is no reduction in non-fatal re-infarction, an exercise programme may be associated with significant reductions in coronary mortality. Exercise, when associated with a lifestyle intervention programme, reduced smoking and improved diet, appears to provide the greatest benefit and improved survival.

Management of other risk factors

- Diabetes mellitus. A prospective randomised study of intensive insulin treatment on long term survival after MI in patients with diabetes showed a reduction in mortality at one year. Insulin-glucose infusion for a least 24 hours, followed by multidose insulin treatment for at least three months, was shown to improve long term survival, with an absolute reduction in mortality of 11%.

- Hyperlipidaemia. A reduction in coronary events from lipid lowering intervention has been shown in high risk groups with total cholesterol concentration as low as 4.0 mmol/l. The results of three major secondary prevention statin trials showed relative risk reductions in total mortality ranging from 9% to 30%, 20%-42% relative risk reductions in CHD mortality, and 24%-34% relative risk reductions in CHD events. (CHD events were defined differently in these three trials. Collectively they represented CHD death, non-fatal definite or probable MI, silent MI, resuscitated cardiac arrest, symptomatic non-fatal MI.) Additionally, these three trials reported a 20-37% reduction in the need for coronary vascularization. Finally, one of the studies reported a 19% reduction in the incidence of stroke.

Pharmacotherapy

- Aspirin. Meta-analysis of platelet inhibitor therapy has demonstrated a 31% reduction in non-fatal re-infarction, a 42% reduction in non-fatal stroke and a 13% reduction in cardiovascular mortality.
- Beta-blockers. A meta-analysis of 25 randomised trials involving over 20,000 patients on long term beta-blocker therapy after myocardial infarction showed a 23% reduction in total mortality and a 32% reduction in sudden death.
- Angiotensin converting enzyme (ACE) inhibitors. Several large clinical trials in the early 1990s evaluated the role of ACE inhibitors in patients following MI. These demonstrated that all cause mortality was reduced by approximately 19% and that there was a 21% reduction in the risk of non-fatal and fatal vascular events, the development of severe heart failure and recurrent MI. Recent meta-analysis of nearly 100,000 patients receiving therapy with a converting enzyme inhibitor within 36 hours of acute MI and continued for at least four weeks, confirmed that ACE inhibitors reduce mortality and that most of the benefits appeared to occur during the first few days, when mortality was highest. Patients at higher risk appeared to benefit to a greater absolute extent.

  ACE inhibitors are also of benefit in reducing acute coronary events and progression of coronary atherosclerosis in patients without left ventricular systolic dysfunction (LVSD).

- Warfarin. A study of the effect of warfarin in survivors of acute MI demonstrated that total mortality was reduced by 24% and non-fatal reinfarction by 34%. There was a reduction of 55% in the number of total cerebrovascular accidents in the warfarin group.

  Another study, a large randomised, placebo-controlled, multicentre trial of the equivalent anticoagulants, nicoumalone and phenprocoumon, showed a 53% reduction in recurrent myocardial infarction over a 37 month follow-up period. There was, however, a much smaller reduction in total mortality of 10%.

- Hormone replacement therapy. Observational studies have shown substantially lower rates of coronary heart disease in women who take post menopausal oestrogen as hormone replacement therapy. This association has been reported to be particularly relevant for secondary prevention in women with coronary heart disease, where a 40-50% lower incidence of cardiovascular events has been reported.

Subgroups Most Likely to Benefit:

Smoking cessation/Nicotine replacement therapy. Heavy smokers (i.e., those who smoke more than ten cigarettes daily).

Angiotensin converting enzyme (ACE) inhibitors. Patients at higher risk of further cardiac events.

POTENTIAL HARMS

- Smoking cessation. Weight gain is common after smoking cessation, so coordinated smoking and dietary advice is needed to limit weight gain when patients stop smoking.
- Warfarin. Serious bleeding has been noted in 0.6% of patients treated with warfarin per year.
- Hormone replacement therapy (HRT). There is an increased risk of breast cancer for women using HRT. A recent meta-analysis of 51 studies of breast cancer and HRT showed that the excess risk of breast cancer slowly increases with time for those who use HRT for long periods. At five years there is an increased risk of 2 per 1,000 (47 vs. 45 per 1,000) compared to women who have never taken HRT and at 10 years there is an estimated additional incidence of 6 per 1,000.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline is not intended to be construed or to serve as a standard of medical care. Standards of medical care are determined on the basis of all clinical data available for an individual case and are subject to changes as scientific knowledge and technology advance and patterns of care evolve.

These parameters of practice should be considered guidelines only. Adherence to them will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor in light of the clinical data presented by the patient and the diagnostic and treatment options available.

Significant departures from the national guideline as expressed in the local guideline should be fully documented and the reasons for the differences explained. Significant departures from the local guideline should be full documented in the patient's case notes at the time the relevant decision is taken.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Scottish Intercollegiate Guidelines Network. Secondary prevention of coronary heart disease following myocardial infarction. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2000 Jan. 26 p. (SIGN publication; no. 41). [97 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Jan

GUIDELINE DEVELOPER(S)

Scottish Intercollegiate Guidelines Network - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Scottish Executive Health Department

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Guideline Development Group: Dr Ian Hutton (Chairman); Dr Grace Lindsay (Secretary); Mr Charles Bloe; Professor Stuart Cobbe; Dr John Gemmill; Dr John Irving; Dr Margaret Kenicer; Dr Dorothy Logie; Dr Jim Maitland; Mr Gordon Thomson; Dr Barbara West.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the Scottish Intercollegiate Guidelines Network (SIGN) guideline development groups are required to complete a declaration of interests, both personal and non-personal. A personal interest involves payment to the individual concerned, e.g., consultancies or other fee-paid work commissioned by or shareholdings in the pharmaceutical industry; a non-personal interest involves payment which benefits any group, unit or department for which the individual is responsible, e.g., endowed fellowships or other pharmaceutical industry support. SIGN guideline group members should be able to act as independently of external commercial influences as possible, therefore, individuals who declare considerable personal interests may be asked to withdraw from the group. Details of the declarations of interest of any guideline development group member(s) are available from the SIGN executive.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline was issued in 2000 and will be reviewed in 2002 or sooner if new evidence becomes available.

Any updates to the guideline that result from the availability of new evidence will be noted on the Scottish Intercollegiate Guidelines Network (SIGN) Web site.

Note from SIGN and the National Guideline Clearinghouse (NGC): In response to the U.S. Food and Drug Administration (FDA) withdrawal of the lipid-lowering agent cerivastatin, SIGN posted a "Guideline Update" specifically addressing the issue and its relevance to this guideline. See the "Companion Document" field of this NGC summary.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Scottish Intercollegiate Guidelines Network (SIGN) Web site.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Notice: Statins update: withdrawal of cerivastatin. August 31, 2001. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001 Aug. Please see the Scottish Intercollegiate Guidelines Network (SIGN) Web site for more information.
- Quick reference guide: Secondary prevention of CHD myocardial infarction. Scottish Intercollegiate Guidelines Network, 2000 Jan. 1 p. Available from the SIGN Web site.
- SIGN 50: A guideline developer's handbook. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001 Feb. (SIGN publication; no. 50). Electronic copies available from the SIGN Web site.

- Appraising the quality of clinical guidelines. The SIGN guide to the AGREE (Appraisal of Guidelines Research & Evaluation) guideline appraisal instrument. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001. Available from SIGN Web site.
- A background paper on the legal implications of guidelines. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on September 11, 2000. The information was verified by the guideline developer on October 17, 2000.

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Date Modified: 11/15/2004